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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,086	02/15/2002	Taro Suga	02090/TL	3499

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EXAMINER

VERBITSKY, GAIL KAPLAN

ART UNIT PAPER NUMBER

2859

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,086

Applicant(s)

SUGA, TARO

Examiner

Gail Verbitsky

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on February 12, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. In light of argument presented by applicant in paper filed on February 12, 2004, the finality of the previous Office action mailed on November 19, 2003, is hereby
withdrawn

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Mears et al. (U.S. 5752674) [hereinafter Mears].

Mears discloses in Figs. 3-9 a device/ total temperature probe comprising a blade-shaped casing/shield 112/ 114 for housing the total temperature sensor 100 for sensing a temperature of an airflow over blade surfaces of the casing. Mears attempts to solve a problem of a conventional probe when the ice breaks off the probe and travels downstream the compressor (Fig. 2 and col. 2, lines 68-65). Mears states that the geometry/ shape/ angle of inclination of the casing is such that allows less ice to buildup. Mears states that when the casing 112/ 114 total inclined angle (of both surfaces of the casing with respect to the direction of the line of the airflow) is approximately 15 degrees, the aerodynamical force is acting so as to release (detach) the ice before the ice mass becomes too large (entire col. 4) and thus, dangerous. As

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shown in Fig. 4, the device has an angle of inclination of a leading edge with respect to the direction of the mass airflow.

For claim 2: since the total inclined angle of Mears, as described above, is about 15 degrees, than an angle of inclination of one blade surface with respect to the direction of the line of the airflow is about 7.5 degrees, which is less than 9 degrees, as claimed by applicant.

For claims 9-11: the geometry of the casing, inherently, includes the angle of inclination of the leading edge with respect to the mass airflow and the width of the leading edge. Mears states that the geometry allows less ice buildup/ deposition. Thus, it is inherent, that the angle of inclination of the leading edge with respect to the air mass flow, and the width of the leading edge, as a part of the geometry of the casing, will allow less ice buildup/ deposition.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears.

Mears discloses the device as stated above in paragraph 3.

Mears does not explicitly teach the limitations of claims 5-9.

With respect to claims 5-8: the particular angle of inclination of the leading edge, i.e., less than 60°, absent any criticality, is only considered to be the “optimum” value of the angle of inclination disclosed by Mears that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on the desired shape of the device, etc. *In re Boesch*, 205 USPQ 215 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the angle of inclination of the surface of the device disclosed by Mears, less than 60 degrees, so as to make the device as compact as possible, so as to minimize the manufacturing costs.

Mears does not explicitly teach the limitations of claims 3-4.

With respect to claims 3-4: the particular width (size) of the leading edge section, i.e., less than or equal 1 mm, absent any criticality, is only considered to be the “optimum” value of the width of the leading edge section disclosed by Mears that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on the desired shape and size of the device, etc. *In re Boesch*, 205 USPQ 215 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the width of the leading edge of the device disclosed by Mears, less than 1 mm, so as to make the device as compact as possible, so as to minimize the manufacturing costs.

Response to Arguments

6. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Verbitsky who can be reached at (703) 306-5473 Monday through Friday 7:30 to 4:00 ET.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-5473.

GKV

Gail Verbitsky 
Primary Patent Examiner, TC 2800

March 18, 2004